

REMARKS

This Amendment is in response to the Office Action mailed January 11, 2008. Applicant respectfully traverses the rejection in its entirety because the rejection is improper and a *prima facie* case of anticipation has not been established. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Request for Examiner's Interview

The Examiner is respectfully requested to contact the undersigned attorney if, after review, such claims are still not in condition for allowance. This telephone conference would greatly facilitate the examination of the present application. The undersigned attorney can be reached at the telephone number listed below.

Improper Rejection

The Office Action generally recites the Office Action mailed April 5, 2007 that referenced Figure 1 and claims 1-15 of Byszewski as support for the rejection. Again, as previously stated, Applicant respectfully submits that this Office Action fails to comply with examination guidelines outlined in MPEP §706 and 37 C.F.R. §1.104(c)(2). More specifically, while the Byszewski reference is clearly a complex reference, the Examiner has again failed to clearly explain or even identify the particular teachings of Byszewski that have been applied against each of the limitations set forth in the rejected claims. In fact, thus far, there has been absolutely no discussion by the Examiner as to what specific teachings within Byszewski constitute the claimed limitations set forth in claims 2-21.

Applicant believes that the pending claims are in condition for allowance, and unless the Examiner provides a detailed explanation outlining the presence within Byszewski of each of the limitations set forth in the pending claims, Applicant respectfully requests the Examiner to reconsider allowance of the pending claims.

In addition, for examination, the Examiner contends that the impermissibility in using the wording in the claims to reject a pending claim is "untenable." We disagree because the wording of the claims, in many cases, does not adequately reflect of the teachings within the specification

because, as the Federal Circuit has concluded, a claim “is no measure of what [a patent] discloses.” See *In re Benno*, 226 USPQ 683, 686 (Fed. Cir. 1985). Thus, Applicant respectfully requests the Examiner to specifically point out in the specification where Byszewski allegedly teaches each and every limitation within ALL of the pending claims.

Rejection Under 35 U.S.C. § 103

Claims 1-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Byszewski (U.S. Patent No. 5,352,345). Applicant respectfully traverses the rejection and submits that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all of the claim limitations. *MPEP §2143, p. 2100-126 to 2100-130 (8th Ed., Rev. 5, August 2006)*. Applicant respectfully submits that Byszewski fails to describe all of the claim limitations.

For instance, as shown in Figure 1, Byszewski describes a three compartment water splitter including a first (Acid) compartment between the cation layer of bipolar membrane 6 and anion membrane 8; a salt compartment between anion membrane 8 and cation membrane 4; and a base compartment between cation membrane 4 and anion layer of bipolar membrane 7. See *column 3, lines 53-58 of Byszewski*. For instance, under the influence of a direct current, the anions in the salt compartment migrate across anion membrane 8 into the acid compartment, and combine with the hydrogen ions generated by bipolar membrane 6 to form acid. Similarly, the cations in the salt compartment migrate across cation membrane 4 into the base compartment and form base with the hydroxide ions generated by bipolar membrane 7. The acid and base are respectively formed in the compartments formed between the cation layer of bipolar membrane 7 and cation membrane 5 and anion membrane 8 and the anion layer of bipolar membrane 6.

Herein, the acid formed in the unit is removed via lines 18 and 20 and recovered via line 22. The base formed in the unit is removed via lines 19 and 21 and recovered via line 23. The depleted salt solution is removed from the unit via line 24 and recovered via line 25. See column 4, line 5-22 of *Byszewski*. Hence, this depleted salt solution constitutes a reject solution. In contrast, the claimed invention explicitly describes the rejection solution having an elevated impurity level, not a depleted level. Hence, it appears that *Byszewski* teaches away from the claimed invention.

Moreover, Applicant respectfully submits that *Byszewski* does not describe or suggest the limitations set forth in dependent claims 2-12. Applicant respectfully requests the Examiner to specifically identify where these limitations are allegedly described or suggested by *Byszewski*. Hence, Applicant respectfully requests that the Examiner to withdraw the outstanding §103 rejection as applied to independent claim 1.

With respect to independent claim 13, Applicant respectfully submits that the Office Action is devoid of any discussion directed to the following limitations:

- 1) a first cell frame that comprises an anolyte compartment to house an anode. This anolyte compartment comprises a first in-flow port and a first out-flow port that is positioned above the first in-flow port;
- 2) a second cell frame having a catholyte compartment to house a cathode. The catholyte compartment comprises a second in-flow port and a second out-flow port that is positioned above the second in-flow port;
- 3) at least one membrane positioned between the anolyte compartment and the catholyte compartment; and
- 4) the EMS subsystem as allegedly taught by *Byszewski* is adapted to (i) receive a brine solution (brine solution used to regenerate an ion exchange resin and having an elevated level of at least one type of impurity) into one compartment of the anolyte and catholyte compartments, (ii) receive a conductive solution having a volume substantially less than a volume of the brine solution into a different compartment than the compartment supplied with the brine

solution, (iii) remove the at least one type of impurity from the brine solution, and
(iv) produce a resultant brine solution that may be reused for regeneration of an
ion exchange resin.

Hence Applicant respectfully submits that the Examiner to explicitly identify each of the
limitations set forth above as allegedly located in Byszewski or to withdraw the outstanding
§103(a) rejection as applied to independent claim 13 and claims 14-16 dependent thereon.

With respect to independent claim 17, Applicant respectfully submits that the Office
Action is devoid of any discussion directed to the following limitations:

- 1) providing an electrolytic membrane separation (EMS) subsystem that
comprises a plurality of compartments. *Each of the compartments includes an
electrode being one or an anode and a cathode;*
- 2) supplying a *brine solution having a first volume and an increased level
of an impurity* to a first compartment of the plurality of compartments;
- 3) supplying a *conductive solution to a second compartment* of the
plurality of compartments, the conductive solution *having a second volume
substantially less than the first volume;* and
- 4) energizing the electrodes to cause ions associated with the impurity to
migrate from the reject solution to the second compartment; and
- 5) outputting the conductive solution having the impurity as waste.

Applicant respectfully submits that the Examiner to explicitly identify each of the
limitations set forth above as allegedly located in Byszewski or to withdraw the outstanding
§103(a) rejection as applied to independent claim 17 and claims 18-21 dependent thereon.

Conclusion

Applicant reserves all rights with respect to the applicability of the doctrine of equivalents. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,
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